

Roundup

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jsc2003e66230 Photo courtesy of Astronaut Scott Parazynski

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A higher place

This photograph was placed on Columbia Point, a 13,980-foot mountain peak in Colorado's Sangre de Cristo Mountains, which was named for the Space Shuttle and her crew.

From the desk of Lt. Gen. Jefferson D. Howell Jr.

Director's Message



A Tribute

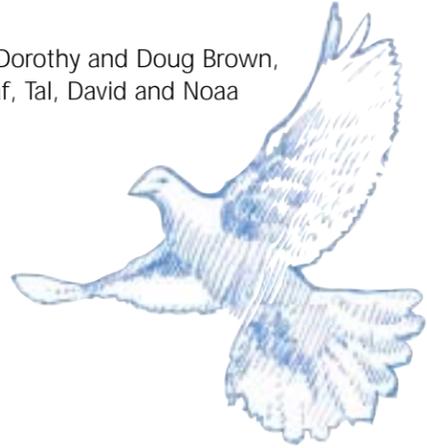
DURING THIS TIME OF REMEMBRANCE I would like to pay tribute to a group of wonderful individuals I have gotten to know over the past year. They are the immediate families of the *Columbia* crew. Not only have they suffered incredible personal tragedy, grief and loss, they have also been thrust into the spotlight of public scrutiny and celebrity, an additional burden that was not their bidding or desire.

From the day of the accident through the present time, all of them, in their own individual styles, have set an example of courage, dignity and spiritual strength that is awe inspiring. On several occasions I have personally witnessed them giving encouragement and support to others in grief although it is they who have suffered the greatest loss. They are indeed very, very special people whom I feel honored to know.

So, to Evelyn, Matthew and Laura Husband, to Lani, Sean, Christopher and Cameron McCool, to Paul, Dorothy and Doug Brown, to Jean-Pierre Harrison, to Sandy, Sydney and Kaycee Anderson, to Jon and Iain Clark, and to Rona, Asaf, Tal, David and Noaa Ramon, I say thank you for who you are and what you do.

I and the entire JSC Team salute you.

Beak sends...



APPEARING THIS MONTH IN OUR

Guest Space

Kent Rominger

Chief of the Astronaut Office



On February 1, 2003, the world lost seven heroes – we lost seven family members. Coping with our tragic loss has been very difficult, but I think that the STS-107 crewmembers would be very proud of NASA's commitment to continued human spaceflight and to the support given to their families.

The legacy of the STS-107 crew will never be forgotten. The crewmembers worked together as a team to perform flawlessly. Individually, they were not concerned with their own accomplishments, even though each one was extremely capable and talented. They didn't look for

fame or to be in the limelight. Each one was committed to being a member of the most capable seven-person team possible.

This past year I have been extremely impressed by the STS-107 families. Their strength, courage and leadership have been a great inspiration to all. Their positive attitude toward continued human spaceflight truly honors their loved ones. I can only imagine just how proud the STS-107 crew would be of their families.

The STS-107 crew also would be comforted by the way NASA is providing care and support for their loved ones. NASA's commitment to the crewmembers' families begins at the top with our Administrator and continues down through the astronauts who personally support each of the STS-107 families. I must take this opportunity to thank these dedicated astronauts for the caring and compassionate support that they have provided to the STS-107 families through this year. The families of these dedicated astronauts should also be recognized for their understanding and unselfish support during these challenging times.

It has been said that we learn more from our failures than from our successes. Clearly, NASA is learning from the *Columbia* tragedy. The Shuttle, International Space Station and other advanced programs made significant accomplishments in pursuit of human spaceflight this past year. The astronaut corps is not only dedicated to supporting these programs, but is honored to work with the talented individuals in these programs

The international cooperation in support of the Space Station demonstrates the robustness of global teamwork. The Space Station program and the entire human spaceflight community should be commended for maintaining a continued human presence in space in spite of the temporary Space Shuttle grounding.

The folks in the Shuttle Program are working extremely hard to address the problems that surfaced as a result of the *Columbia* accident. They are methodically addressing difficult challenges and are dedicated to safely returning the Space Shuttle to flight. I know the STS-107 crew would be proud of these folks and their efforts.

At this moment, a plaque honoring the crew and bearing their mission patch is now on Mars, carried there by the Spirit lander. We see the STS-107 logo in pictures being beamed down to Earth. It's a marvelous tribute to the crew's own spirit of exploration and demonstrates how deeply each member of the NASA family cares, and remembers, the dedication of these amazing human beings.

The very spirit, teamwork and commitment demonstrated by the STS-107 crew are what I have witnessed in the NASA team. I feel we will have a bright and rewarding future ahead of us as we strive to continue the STS-107 legacy.

Columbia crew remembered with plaque on Mars Spirit Rover

NASA Administrator Sean O'Keefe recently announced plans to name the landing site of the Mars Spirit Rover in honor of the astronauts who died in the tragic accident of the Space Shuttle *Columbia* in February 2003. The area in the vast flatland of the Gusev Crater where Spirit landed in early January will be called the Columbia Memorial Station.

Since its historic landing, Spirit has been sending extraordinary images of its new surroundings on the red planet. Among them is an image of a memorial plaque placed on the spacecraft to *Columbia*'s astronauts and the STS-107 mission.

The plaque is mounted on the back of Spirit's high-gain antenna, a disc-shaped tool used for communicating directly with Earth. The plaque is aluminum and approximately six inches in diameter. The memorial plaque was attached March 28, 2003, at the Payload Hazardous Servicing Facility at NASA's Kennedy Space Center, Fla. Chris Voorhees and Peter Illsley, Mars Exploration Rover engineers at NASA's Jet Propulsion Laboratory, Pasadena, Calif., designed the plaque.

"During this time of great joy for NASA, the Mars Exploration Rover team and the entire NASA family paused to remember our lost colleagues from the *Columbia* mission. To venture into space, into the unknown, is a calling heard by the bravest, most dedicated individuals," O'Keefe said. "As team members gazed at Mars through Spirit's eyes, the *Columbia* memorial appeared in images returned to Earth, a fitting tribute to their own spirit and dedication. Spirit carries the dream of exploration the brave astronauts of *Columbia* held in their hearts."



A plaque honoring the fallen heroes of *Columbia* is mounted on the back of Spirit's high-gain antenna.

Jsc2004e00070 Photo Credit: NASA/JPL

HOW THE STS-107 CREW INSPIRED US

■ The STS-107 crew was a crew that was dedicated to all the goals of human spaceflight and upheld all that NASA stood for. Rick Husband was a particular inspiration to me with his low-key approach to everything he did. One did not have to be around Rick very long to realize that the two most important things to him were his God and his family (in that order). I remember his smile and his ability to treat everyone around him with the utmost of respect.

Lonnie Moffitt, Space Shuttle Program Integration, Flight Director Office

■ How did the crew of *Columbia* inspire me? They inspired me with their courage, devotion to duty, and their love of the unknown. They knew there was great danger when they began training for the 107 mission. But that didn't stop them. Their inner drive gave them the devotion to duty they needed to stay the course and do what they felt their duties demanded. And finally, their burning need to explore the unknown (despite its hidden dangers) gave me pause to reflect on just how special these humans were. They give us all a higher standard to strive for.

Jack Baston, Internet Apps Developer, USA Information Engineering, Mission Operations Directorate

■ Shortly before STS-107 launched, I met David Brown in the MCC. My youngest son, Stephen, was learning to ride a unicycle at the time and becoming discouraged. Dave was an accomplished unicyclist and I asked him for any encouraging words to pass along. He said that you had to be willing to fall down a lot in order to master it. This helped Stephen realize that falling down did not mean he was a failure, just that he needed to keep trying. He still falls down sometimes, but remembers Dave's advice and continues working toward mastering it.

Bill Foster, Mission Control Center, Ascent/Entry Ground Control Officer, Mission Operations Directorate

■ In life and death, the *Columbia* crew inspired me to excellence – to not take my role in Robotics, the space program, the world, and life lightly. They inspired me to press on with my dreams through adversity and despair. We continuously make decisions that lead us down different paths and the *Columbia* crew inspired me to not only do the best that I can, but to strengthen my weaknesses, so I can make my best better. In memory of Rick Husband, Willie McCool, Michael Anderson, David Brown, Kalpana Chawla, Laurel Clark and Ilan Ramon, who all inspired me!

Chris M. Weber, Robotics Flight Controller, Mission Operations Directorate

■ I have been intrigued by human space exploration as far back as I can recall. I first realized the risk involved in space travel when I was 9 and the *Challenger* exploded. To my mother's dismay, it only solidified my desire to be a part of it. Just to know that there were other people out there so determined to explore and research outside of our world that they would risk their lives made me realize: this is what I want to do! The dedication of the crew of *Columbia* and all crews inspires me.

Carly Robrig, Lockheed Martin - SEAT, IP Engineering Integration and Verification

■ I was the original Flight Data File Lead for this wonderful crew before I became ill for about three months. They knew that I had been replaced as the lead and they called often to check up on me. These were very determined crewmembers who knew what was expected of them and yet they did not forget the people behind the scenes. They were great as a crew, and as individuals they were very caring. They gave me the will and determination not to give up during my illness and to recuperate and go forth.

Dee Lopez, Flight Data Flight-Flight Lead

I was fortunate to work with and become friends with the STS-107 Columbia crew.

They all shared so many of the same special qualities such as intelligence, bravery, a strong love of family, professional dedication, kindness towards others, a deep desire for knowledge (especially technologies and sciences) and a joyful, fun-loving, adventuresome spirit.

I think often about the special inspiration each one has given me, and exactly how they touched my life.

Laurel said in orbit, "Life is a magical thing." She inspired me for her love of every living thing. She has taught me how precious life is. Because of her, I never take anything for granted.

Willie's little surprise gifts and appreciation notes that he would leave on my desk taught me about consideration and how to bring happiness to someone's soul.

Dave taught me to strive to excel in creativity, which brings constant challenges for improvement to all creative people.

Mike was so religious and dedicated, and has my complete admiration as a role model.

Ilan showed me that celebrities and heroes can be humble people. I never knew until he was gone that he was considered a national hero in Israel.

KC loved reading. After seeing all of the many books that were in her home, I am inspired to continue reading and learning.

Rick's strong faith that he had in God will continue to strengthen my belief. His leadership inspires me every day.

I learned something special from each one of them that I'll carry the rest of my life. I am truly blessed to have known them all.

Darla Racz, STS-107 Training Manager



Darla Racz, STS-107 Training Manager, poses with the crew. A mission's Training Manager and Crew Secretary are the only people to have official portraits taken with a crew.

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HOW THE STS-107 CREW INSPIRED US *(continued)*

■ What lingers with me, and inspires me, are the final efforts of Commander Rick Husband to manually control the re-entry trajectory of *Columbia* once he recognized the necessity for intervention. His courage and desire to make things right are profound.

Richard D. Järvinen, Code NX

■ I saw seven dedicated, extraordinary people working and preparing for a very important mission full of scientific experiments that would open doors to questions of science for the world to use. These seven show how all astronauts dedicate their lives unselfishly to the challenges that they have dreamed of and love. Their faces will always be etched in our memories, but the spirit of these diverse individuals will always motivate me to strive for excellence with humility, grace, faith and great humor.

Phillip Good, Science Engineering Analysis Testing, Metabolic Lab

■ I did not personally know all the members of STS-107, but the two that I knew pretty well were an inspiration to everyone they met. Willie and Rick were two of the most wonderful men I have had the pleasure of meeting; they were kind, honest and loyal. They loved their families and loved to talk about them; they personified the title “gentleman”: “A man whose conduct conforms to a high standard of propriety or correct behavior.”

Nancy Capra, Secretary, Orbital Space Plane Program Office

■ I had the honor and privilege of working with the individual astronauts starting following their Astronaut Candidate training all the way through STS-107 – including when they were assigned on other crews – and as the STS-107 crew, since they were actually assigned as that crew. They exuded teamwork, leadership, honesty, integrity, pride, honor, and loyalty every day. To know them at work, and personally, was a constant reminder about values – family values and commitment to excellence in every way. “They were my north, my south, my east, my west. My working week, my Sunday best.”

Linda Kennedy, STS-107 Postflight Appearance Program Lead, Astronaut Appearances Office

■ I checked in debris recovered by the field crews in Ft. Worth. One of the last items found was an unusual laminated business card found around Azle, Texas. On the front was a Hindu deity figure and on the back was both Indian and English writing which indicated a car rental business. Whether it belonged to her or not, I couldn't help but think of Kalpana Chawla, of both the local pride she inspired in her home country and of the great global endeavor she participated in, helping to bring all of us on this tiny planet closer together.

John Clack, Projects Lead, Management Services Office

■ I helped with a Make-a-Wish Foundation tour for a boy who wished to be an astronaut. As we toured the crew equipment facilities, Laurel was inside packing her items for 107. When someone told her we were outside, she made time to come out to meet the boy, have her picture taken with him, and promised to not only send him a photo with her autograph, but of the entire crew. She got his address from me and did as she had promised. His mother called me to say how cherished all of those photos are to him.

Peter W. Pruyn, Instructor, Shuttle Control/Propulsion

■ The *Columbia* crew represented a universal, diverse and talented group of individuals committed to working together to bring good to humanity and the world. They leave us an example that regardless of color, race, religion and ideology, people can work together and make a positive and long-lasting contribution in the world.

Juan Manuel Traslavina, Assurance Integration Engineer, SAIC

■ Ilan was my schoolmate in graduate school. He was in a design group with me. He stirred in me an increased hunger for knowledge. His gentle kindness contributed to my success in attaining a Master's degree. His deepest impact on me occurred the first time I saw Ilan floating in space, as it was a true moment of inspirational realization. It went beyond the beauty of seeing him touch the star he had dreamed of in school. It opened my eyes and heart to what could be.

Laurie Carrillo, Engineer, Space and Life Sciences

■ The STS-107 crew left an amazing legacy. What I noticed most was their spirit and lust for life. In every photo I have seen, it is quite obvious that they not only loved everything they did, but they enjoyed and cherished the friendship of each other. The smiles on their faces speak volumes. This past year, I have gained a special appreciation for all things – especially people – that are special in my life. Living through an experience like this makes you realize that every day is special. Laurel Clark's quote says it all: “Life is a magical thing.”

Donna Baumer, Graphics Supervisor, IMPASS contract



William McCool, David Brown and Rick Husband take a break during training.

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Laurel Clark, Rick Husband and Kalpana Chawla are pictured prior to their sleep shift in bunk beds on the middeck of the Space Shuttle *Columbia*.

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■ The last crew of *Columbia*, like most crews, inspired me to do my best because they were counting on me. They had a job to do and so did I – they were very aware of the importance of the work of the people in the day-to-day operation of the space program and were always giving kudos and encouraging words. They knew that while their expertise was very important to the mission, they were ultimately putting their lives in our hands and trusted us to do our jobs right. I hope that we deserve the trust of the next crew.

Jean Alexander, CEE Equipment Specialist

■ The crew of *Columbia* inspired me by being willing to risk their lives for what they believed in. Despite many years of successful Shuttle launches, they were well aware of the dangers and risks involved. They were committed to answering the call of NASA to push the boundaries of science and increase our knowledge of human spaceflight. The positive public statements following the disaster by their families and friends have shown us that the crew of the *Columbia* were strong leaders within their families and their communities, using the abilities they had been given to serve those around them.

David B. Cook, Senior Engineer, ISS Hardware/Software Integration

■ I am inspired by the following qualities of the crew of *Columbia* (William McCool and Kalpana Chawla): art of living towards science, smiling faces, dedication, enthusiasm, humor, positive attitude, innovative adaptation to changes in collection of specimens, patience, precision and accuracy of data recording.

Vinodbala P. Shah, Scientist, Pharmacotherapeutics Lab

■ As brave souls that I could wish to have been, they became part of the universe we seek to know.

Ken Lassmann, Manager, JSC SBIR/STTR & CDDF Programs

■ The loss of *Columbia* only brought me hurt for a while. Time is replacing that pain with awe and wonder at the courage and heart of true explorers willing to risk their earthly lives for the joy of discovering and enlarging the limit of humanity's knowledge. I will more passionately pursue the explorations and endeavors important to me the risky but soul-stirring adventures I've dreamt about for a long time. I am, as always, committed to space exploration as an adventure that benefits our planet and humanity in both a physical and spiritual sense. True joy is worth the risk.

Karen Borski, Data Archivist/Experiment Support Scientist, Space and Life Sciences Directorate

■ As a quality engineer for the NASA Space Shuttle Program, I have true regard for the crew of *Columbia*. Their vision, strength of purpose and sheer determination to conduct their mission has inspired me to continue my work. Even though many critics have derided the space programs for the risks involved, I fully understand that risks are necessary for endeavors as valuable as our missions to space. The fruits of space exploration shall continue to enrich and bring meaning to the lives of all Earth's inhabitants. We must continue the process for which our noble astronauts gave their lives.

Joyce Osterhus, Sr. Quality Engineer, West Coast S&MA Office, SAIC

■ They were just so gracious, inquisitive and nice to work with. I had helped Kalpana design her first mission patch. She was a first-time astronaut, and yet she was the most polite, most patient, most like a kid with a new toy of anyone with whom I have had the pleasure to work. She asked about the design process, not wanting to "cause any trouble," willing to come to Graphics to talk about it. She had the positive attitude to which I'd most like to aspire – a genuine explorer of new things, no matter what the subject. I'll miss that.

David Russell, Senior Graphic Design Specialist IV, IMPASS contract

■ After the STS-107 tragedy, I went to Toronto to talk to kids about NASA. When I looked into the audience, I saw a diversity of faces all interested in space. The STS-107 crew mirrored that same diversity. A friend of mine who lives in Toronto reminds me of Kalpana Chawla with the mixture of Eastern and Western culture that comes when one emigrates from India. The STS-107 crew looked like America. They worked so well together in space in spite of, or because of, their diversity. I hope that we can continue that legacy here on the ground.

Stacey E. Morrison, Deputy CIO, Space and Life Sciences Directorate

■ The *Columbia* crew should serve as an inspiration to every person who has ever looked to the heavens and dreamed of what might be. Dreamers seem to be in short supply these days. Each crewmember will be remembered as one who dared to act on their dreams. "Great it is to dream the dream / When you stand in youth by the starry stream / But a greater thing is to fight life through / And to say in the end that the dream is true." –John Osteen
Ernest Marsh, Senior Engineer, Software Safety

■ It's human nature that good things will arise from tragedies that affect our lives. The last few years, there have been a lot of them, whether personal or national. Although I'm not an engineer or an astronaut, I have wondered "Did I do a good job for STS-107? Could I have done something better? Did I serve them well?" I've taken time to rededicate myself to NASA's mission of space travel and that I'm a part of our country's pride. This has led me to push my team toward perfection to ensure that we're serving the astronauts who have chosen this perilous path.

Gyla Whitlow, Special Event Coordinator, IMPASS contract

The Columbia crew inspired me with their positive attitude and unconditional love and respect for every person who crossed their paths. These seven accomplished souls took the time to embrace me and everyone else who supported their mission, and treated us as a part of their crew. They showered me with praise and always offered positive guidance. This crew insisted that I wasn't "just their secretary," but an integral part of the team, which is how they treated all who contributed to their efforts towards this mission.

A few of my thoughts on each individual crewmember:

Rick's faith was present in his everyday life. It was easy to understand why he was chosen as Commander for this very demanding 16-day mission. He sang in his church choir and invited me to come to special services. To see and hear him sing his solo with a special grace and love, backed by this large choir, never failed to bring tears to my eyes.

Willie's charm and thoughtfulness not only touched those he knew but also reached out to organizations that make a difference throughout the world. He brought items into space for the U.N.'s World Food Program, Doctors Without Borders, and Interplast – all organizations that transcend borders to help the less fortunate. His wife and sons were his heaven here on Earth.

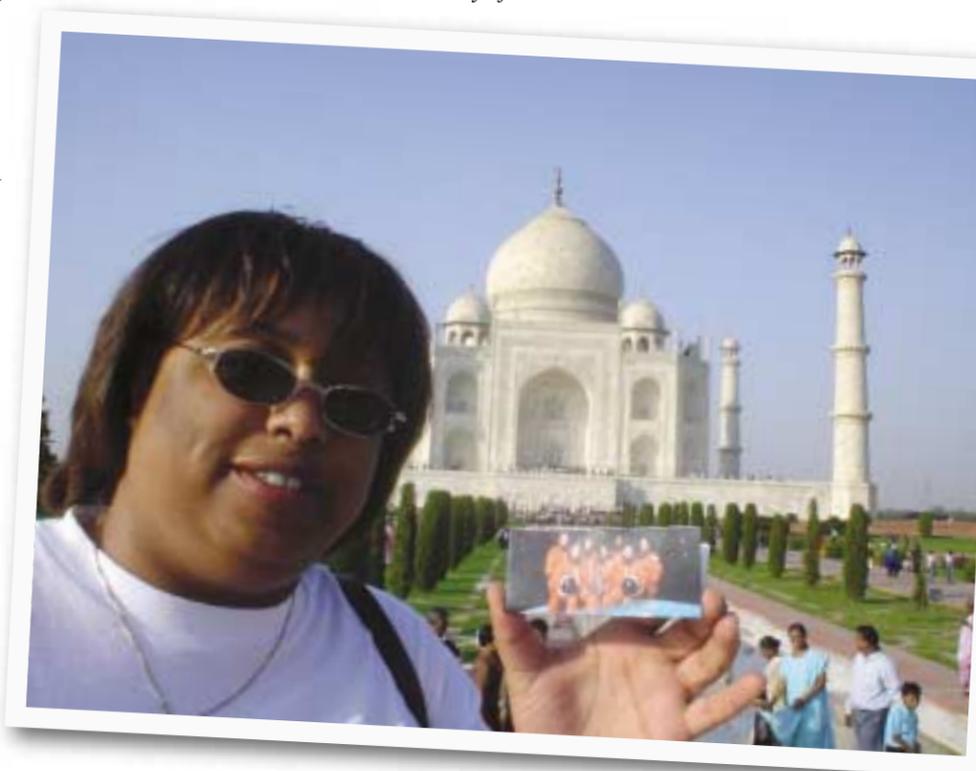
Dave enjoyed sharing many adventures and hobbies, from his past days as a gymnast and circus performer, to the present (last year) when he called me with a live second-by-second account of the crew's approach to the launch pad during the Terminal Countdown Demonstration Test. He was detailed and full of enthusiasm. I can still feel the wave of excitement and hear him say over the cell phone, "There she is. Oh Roz, she is beautiful!" referring to the Columbia as she stood on Launch Pad B.

Michael was confident and intellectual – a deep thinker. Humble, quiet and professional, he had the most incredible smile. He was a wonderful husband and father. He took pride in his African-American heritage with a strong affection and appreciation for the forefathers who led the way like the Buffalo Soldiers and the Tuskegee Airmen.

Kalpana had a quest for knowledge. She was always studying and preparing to soar over and above what was required, with special attention to detail. Even with her demanding schedule and time constraints, she would stop what she was doing to lend a hand or guide me in the right direction. She had special love for birds and nature. Children adored her and she even made it a point to get to know my children, Jacques and Kristina.

Laurel glowed from deep inside with honest and nurturing love. Her greatest passion was her son Iain and her husband Jon. She was observant, caring and at peace. She had a wealth of information – a natural instructor, she was always willing to share her knowledge. Always thoughtful, while in space, she made a special effort to say 'thank you' from her entire family with an e-mail and flowers delivered to my home.

Ilan was one of the nicest men you could ever meet. Very patient and capable, he would show me different cultural items from Israel, carefully explaining the details and its history. He made it a point to compliment me for my ability to bridge time zones while working with the Israeli Embassy and various Israeli government agencies. Ilan was already a hero who stood up for his beliefs to protect his beloved country of Israel.



Since their passing, I continue to feel an extension of their kindness through their colleagues, friends and especially their families. When one has been graced with the privilege of being in the presence of such an exceptional group, I am inspired to pass onto others all that they have shared with me: unconditional love and respect, and never taking one moment, one person or the smallest kind gesture for granted.

Rosalind Hobgood,
STS-107 Crew Secretary

Rosalind Hobgood, STS-107 Crew Secretary, went to India in November with some of the crew's family members. They were invited by Astronaut Kalpana Chawla's husband J.P. Harrison to distribute copies of CDs highlighting Chawla's career at NASA. The group of 10 arrived in Delhi and then departed to their assigned cities to make presentations at universities, planetariums and schools. Hobgood's group, which visited Bombay, included Rona Ramon and Lani and Cameron McCool.

HOW THE STS-107 CREW INSPIRED US *(continued)*



Several of the crewmembers pose for a photo in the SPACEHAB Research Double Module aboard the Space Shuttle *Columbia*. Clockwise from the bottom are Astronauts David M. Brown, Michael P. Anderson, Kalpana Chawla and Ilan Ramon.

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■ The most inspiring aspect about *Columbia's* crew was purely its international diversity, since it was somewhat microcosmic of Earth itself. This multicultural medley of nationalities, faiths and heritages voyaging together inside a rocket ship around our home planet in peaceful exploration sends a strong positive message to peoples of all backgrounds: true cooperation for the good of this precious globe is entirely possible in our existence. As a Jewish man, I was particularly touched by the flight of Israel's first astronaut, Ilan Ramon, and the cache of historical and modern Judaica he carried as symbols of peace for everyone.

Roger H. Weiss, Technical Integration Specialist, SAIC

■ I continue to be moved at the thought of flight STS-107 and of the remarkable crew of *Columbia*: Flight Engineer and Mission Specialist Kalpana Chawla, Pilot William McCool, Mission Specialist Laurel Clark, Commander Rick Husband, Payload Commander and Mission Specialist Michael Anderson, Mission Specialist David Brown, Payload Specialist Ilan Ramon, as they shall always remain in our hearts.

M. Kathleen Keith, Travel/Training Coordinator, Shuttle Safety and Mission Assurance Department

■ I am inspired by the entire NASA Astronaut Corp that dedicate their careers and lives to a search for ways to improve our lives on Earth and to help find answers to questions about our origin and existence. I am particularly inspired by the memory of the seven crewmembers of *Columbia* who made the ultimate sacrifice for that cause, and I sincerely hope that their sacrifice is not in vain, and that the lessons learned will strengthen our (NASA's) resolve to achieve greater heights.

H. L. Stewart, Engineer/Consultant

■ The crew of *Columbia* were men and women of faith. Each one of them was highly educated and explorers in their own ways but they never failed to seek divine power. I was extremely inspired with the humility of Commander Husband. They exemplified oneness and respect for each others' as a team. I feel that one's profession should be so fulfilling to you that the obstacles become secondary to the rewards. This was revealed by the crew of the *Columbia*. Their examples of being "strong and courageous" will ever live in the hearts of the NASA family.

Julia A. Belton, Senior Mechanical Technician, S.A.I.C.

■ Humanity yearns to reach the stars, the heavens, and *Columbia's* crew touched the stars while gazing upon our blue seas and mountain majesties. We honor the bravery of those who've journeyed into space, while so much is required to continue on and explore. As a small comet in the sky, friends and families were left behind. Knowledge learned is a gift to mankind, and like the discoveries and sacrifices of our forefathers, these accomplishments have a price. We have learned from their sacrifices, and they continue to inspire us as we continue to reach for high places.

David Hower, Hamilton Sundstrand Mtg. Services, LSS Engineering and Reliability

■ Rick Husband always remembered your name, and always wanted to know how you and your family were doing. I remember Rick giving his son Matthew piggyback rides at school basketball games. Rick's family was number one, not by what he said but by his actions. Rick inspired to me to remember that no matter who you are, remember those that you work with, or that may work for you, and take an interest in their lives and their work. I hope that some of Rick's qualities rubbed off on me after working with and being a school parent with him.

Alan Currie, Computer Engineer

■ I never had the opportunity to work with or know personally any member of the STS-107 crew. However, I had the privilege to see Rick Husband being interviewed by his pastor on television about one week before the launch of STS-107. During the interview, Rick spoke about how he came to faith in our Lord and Savior Jesus Christ and all that the Lord has done in his life. I am always glad to hear the testimony from a fellow believer. However, hearing Rick's testimony was a special blessing to me being that Rick is member of the NASA family.

Michael Cooke, Acting Branch Chief, EV2

■ Since STS-107 was a research-dedicated flight, I got to work with this unforgettable crew nearly every week for over two years. First I was struck by their great abilities on a professional level. The crew was completely dedicated to their mission, paying close attention to every detail. However I also admire them on a personal level, because they were so dedicated to each other and those who worked on 107. They made me feel like family, welcoming each session with a hug and smile. In their memory, I hope we continue to carry on with the same respect and honor.

Karin Bergh, Project Lead, Lockheed Martin

■ When my son Anthony was deciding which college to attend, we visited Texas Tech University in 2001. Since he was interested in the undergraduate Engineering program, we toured that department and noticed NASA items in a display case showing Mechanical Engineering graduate and alumnus, Rick Husband. I sent an e-mail message to Rick, asking about his experiences at Tech and what advice he might impart to my son. Rick was very forthcoming and his advice eventually led to Anthony selecting Tech. Rick also sent a signed photograph to Anthony that he will cherish always.

Louis Cioletti, Project Coordinator, Bioastronautics Program, Wyle Laboratories Life Sciences

■ The crew inspired my continuing personal improvement to: live a life filled with humor and joy; thank family, friends and co-workers often; build close bonds with the wonderful mix of people who cross our paths, then share intimate, personal moments of friendship with them; find hobbies I really love, then share them with others and invite them to participate; develop inclusive leadership manners; study and work hard to do the very best I can given my capabilities, gifts and limitations; and accept responsibility in the face of risk.

Carolynn Conley, Increment Engineer, Barrios Technology

■ The STS-107 crewmembers were very special to us in Life Sciences, not only because of the experiments they were conducting, but also due to their backgrounds. All of the crewmembers were kind and empathetic, often taking time from their busy lives to personally attend to the needs of friends and family around them. Yet they each had special gifts of intellectual curiosity, perseverance and never-ending energy. Their dedication to the acquisition of knowledge inspired me to ensure that our research here in Space Medicine serves as many “in need” people as we can through scientific presentations, outreach, and publications.

Jeffrey A. Jones, Medical Operations office

■ I first met Laurel Salton in the 7th grade at Monroe Junior High School in Albuquerque, New Mexico, in 1972. She was a clear-thinking, prim, proper and inquisitive girl – a far cry from her contemporary male classmates. I didn’t see Cmdr. Laurel Clark, USN, again until 2000, when she visited WSTF. We had some fun with Laurel at the WSTF Open House showing pictures from our days at Monroe JHS. I grieve for all those lost on *Columbia*, but Laurel has a special place in my memories as a real life survivor and an inspiration.

David Loyd, Chief of the Quality Assurance, Reliability & Safety Office, White Sands Test Facility

■ One of the ironies of life is that it sometimes takes tragedy to make us aware of all that we have. I didn’t know the STS-107 crew in life, but their loss instilled in me a deeper appreciation for the time I’ve been given, and that we should make every moment count as if it was our last. From everything I’ve read, that’s what every member of this crew did. Like the magnet on my refrigerator says: “The aim of life is to live, and to live is to be aware – joyously, drunkenly, serenely, divinely aware.” –Henry Miller

Marshall Mellard, Graphic Designer, IMPASS contract

■ I was inspired by the crew of *Columbia* by knowing that these seven individuals gave the ultimate sacrifice minutes away from being home after working a long, hard, successful mission. I felt compelled to help in the recovery effort. I volunteered and was assigned a two-week stint in Corsicana, Texas, walking fields with Forestry Service fire fighters and identifying parts recovered. No matter how tired I was, wild horses couldn’t have dragged me away from helping in the recovery effort. It was my way of giving back my time and talent to the dedicated STS-107 crew and their families.

Andrew J. Ideler, Mission Operations Directorate Avionics, Reconfiguration Systems Group

■ I didn’t realize the depth of how much I was affected by this tragedy until I tried to explain to my daughters what happened. I knew the part I played may be small but when all small parts come together it makes for something big; each part is important. My daughters and I don’t live together, but we promised to pray for the astronauts and thank the lord that we still have each other. *Columbia* has inspired me to be more professional, a better father and friend and more aware of how the government votes to keep this program going.

Donald Roberson, Supply Tech, DynCorp

■ I was inspired by the crew of *Columbia* when I learned that they had come together to pray. This is an example to the rest of the world that people of different religious beliefs, ethnic backgrounds, and nationalities can work together in peace for the common good of humanity.

Laz Gonzales, Computer Facilities Administrator, Flight Design and Dynamics Division

Walk through these doors and remember: you are not on television, your picture will not make the morning edition. On a good day, the world will never know you exist, for you toil not in the light but in its shadow.

But know too that what you do here is no less important because of these things. Quite the contrary.

What you do here, you do for your country, for the world, and for the men and women who wear stars.

What you do here allows humankind to reach beyond what it was: to explore, to learn, and to understand.

Six hundred years ago you would have been building ships for men named Columbus and Magellan. Six hundred years from now, your children’s children will build starships for men and women whose grandparents are not yet born.

What you do here makes the future possible. What you do here today makes tomorrow better.

The world may never see you, but know this – that those who stand in shadow also serve.

Brent H. Bynum, The Boeing Company,
NASA Systems/MEDS T&O



Brent Bynum of the Multifunction Electronic Display Subsystem Test and Operations Group is shown in Building 9.

■ I have been inspired to be more diligent in carrying out my duties, knowing that my actions can affect areas I am unaware that I am impacting. I have been more observant of the practices around me and how they affect my quality of work life. I have a more jaundiced eye towards my attitude, towards my work and what I need to get accomplished. I better understand how critical it is that I give NASA diligence in carrying out our mission and requirements, knowing that I have my leader’s support!

Barry B. Copeland, CPA, Orbital Space Plane Project Control Office

■ Life is fraught with uncertainty, which can be a source of discomfort. To me, the glorious legacy of the brave, selfless crew of *Columbia* is the continuing reminder to give your best, do your best, and never fear the future.

Mary Peterson, Editor, Safety & Total Health Newsletter

■ During the practice launch count in December of 2002, we had a quiet dinner the night the crew arrived at KSC. Since we were so happy to be finally close to launch, we celebrated and had several toasts. I started the toasts by telling the crew that I respected them not for being astronauts, or pilots, or doctors or highly accomplished people, but for the great attitudes that each showed continually. They always stressed that everyone was important and everyone matters. We were all in it together. They didn’t just share the mission. They shared themselves.

Robert Hanley, Vehicle Integration Test Office, Flight Crew Operations

HOW THE STS-107 CREW INSPIRED US *(continued)*

■ As we are inspired to Return to Flight, I am personally committed to offer and apply all of my past abilities and experience that include Apollo, Skylab, ASTP, Space Shuttle, and International Space Station. My vision for NASA and human flight is to personally commit my energy and experience to leave no stone unturned to assure safe future flights for our excellent NASA Flight Crews that follow the “Crew of *Columbia*”. Our NASA Flight Crews represent the greatest nation on Earth, the USA.

Joe Levine, Innovative Solutions

■ The STS-107 *Columbia* crew inspired me through the joy and awe they found in the simplest of things: Faith, career, family, nature, sports, flight, hobbies, fashion, humor and their relationship with each other. This legacy of the *Columbia* crew has inspired me to look beyond myself, examine my faith, renew my commitment to family and friends and learn to make the most of every moment. I take great comfort in the knowledge that they lived more in their brief lives than most people do in a lifetime. And I have my lifetime to honor their examples and legacy.

Ellen A. Gillis, Publicist, Astronaut Appearances Office

■ The crew of *Columbia* had a dream – a dream shared by many. It was the dream of exploring space, and they had the wonderful opportunity of actually seeing their dream come true. They knew that exploring space is risky, but it is also part of human destiny and one of the most noble and most interesting vocations possible. Life would be dull indeed if we were not willing to take some risk. For us, life goes on, but we are inspired by them, by their contribution, and by their dream.

Arthur L. Schmitt, SAIC - Innovative Solutions

■ The crew of *Columbia* had a special camaraderie that was quite evident when they scheduled and flew jets out at Ellington Field. What inspired me most about them was how they were trained to go “higher, faster, and farther.” Rick Husband and Mike Anderson said it in so many words in church, that if anything were to happen up there, “they would just keep going, to a higher plain.” And they did. They are an inspiration to all of us here at NASA. In their memory we will find the strength to return to flight.

Charlie Ober, Flight Management Specialist, Aircraft Operations Division

■ I’m in the JSC Graphics Department, and worked with Rick Husband to produce his first flight patch: the STS-96 patch. This was also the first Shuttle crew patch I had been assigned, and I was a little in awe of working directly with an astronaut, but Rick quickly put me at ease. He treated me as if my job was as important to the space program as his. As far as I know, he treated everyone like this, and really believed it. This was the first time that I really felt like I was a part of the space program.

Cindy Bush, Graphic Designer, IMPASS contract

- C - The cohesiveness that they exhibited with each other
- O - The opportunity of a lifetime to explore space, do research and test human spaceflight on the ground and in the air
- L - A league of extraordinary men and women
- U - An unrelenting pursuit of excellence in their chosen fields
- M - In memory of the STS-107 crewmembers
- B - To go beyond the call of duty
- I - To keep the integrity of the space program intact
- A - To aim high

Oretta Cade, Program Integration office, Space and Life Sciences Directorate

■ As I reflect on the lives of the men and women who were a part of the *Columbia* crew, I marvel at their willingness and courage to live their lives according to what they believed was worth accomplishing. Each crewmember put his or her heart and soul into a dream and made it a reality. They lived their lives with “Purpose.” I am inspired to live my life to the best of my being. I am inspired to dream big and not be afraid to make my dreams a reality. I am inspired to live a life that has “Purpose.”

Keresa Aaron, BC Program Controls Analyst, Wyle Laboratories Inc.



The crew of STS-107 gets ready to have their crew portrait taken with NASA JSC photographer, Robert Markowitz.

jsc2002e32645

David Brown plays around for the camera prior to the photo session.

jsc2002e32536

■ I was greatly inspired by the *Columbia* crew’s enthusiasm – to the last they were all so enthused about the projects and data that they were bringing back. Even with such a tremendous loss of this precious crew, there will always be a special inspiration to me of their spectacular zeal in the quest of their space endeavors.

Dianne Milner, ERIAR&SD Division Secretary

■ The crew of STS-107 believed that no matter how dangerous the job that it doesn’t matter as long as you love and believe in what you are doing. So many of us go through life and don’t truly love and believe in what we are doing. The crew inspired me to truly take part and believe with all my heart and all my soul in the job that I do for NASA. They made me understand the importance of exploration and pushing the envelope. They inspired me to never give up no matter what the cause if you believe in something.

Tiffany Travis, Communications Specialist, Office of Public Affairs, IMPASS contract

■ Our payload had activities throughout the mission. The crew’s diligence and attention to detail was evident. Leaving from Mission Control to support the landing, I felt pride as I reflected on their achievements. I remembered a previous training session in which the crew discussed strategy with a style and enthusiasm that I imagine occurs during real-time development of a football play! Who would pass to whom and who would hand off to whom. Wow! I will remember this crew with twinkles in their eyes, each taking turns to discuss each other’s experiments. Their determination and strength inspire future achievements.

Lisa Juliette, Cell Scientist

■ It's not fair that we started thinking about the *Columbia* crew as heroes since they died on February 1, 2003. While reading their biographies at <http://www.nasa.gov/columbia/crew/index.html>, I was impressed by what they had accomplished even before going on that mission, first for some of them and the last for all. This is where my real inspiration came from: not from their deaths but from their lives and their work! If you read about all the science experiments they had worked on before STS-107 and their contributions, you'll be inspired to work harder and smarter. God bless America and NASA people!

Roumy Vekilov, Lockheed Martin Space Operations/SEAT Hypervelocity Impact Technology Facility Test Team

■ The *Columbia* crew continues to inspire me as being an example of "religious diversity working together as one." Especially now, with all of the turmoil in the Middle East that we find ourselves in, these seven worked together as a team. They bonded and depended on one another for their very lives within the void of space in the tiny enclosure, Space Shuttle *Columbia*. They are my example. Let them be your example of how we should depend on one another within the void in our tiny enclosure, planet Earth.

Todd A Gaspard, Flight Engineer

■ The crew inspired me to keep my mind open to the future of space travel. No one ever said space travel would be easy or safe; we must continue to strive forward for the advancement of all endeavors associated with this. My job in the Crew and Thermal Systems Division is just a small part of the overall picture in preparing astronauts and equipment for space travel, but it is the thousands of people just like me that make it work. Everyone should be inspired by the *Columbia* crew because they would have wanted us to continue to explore space.

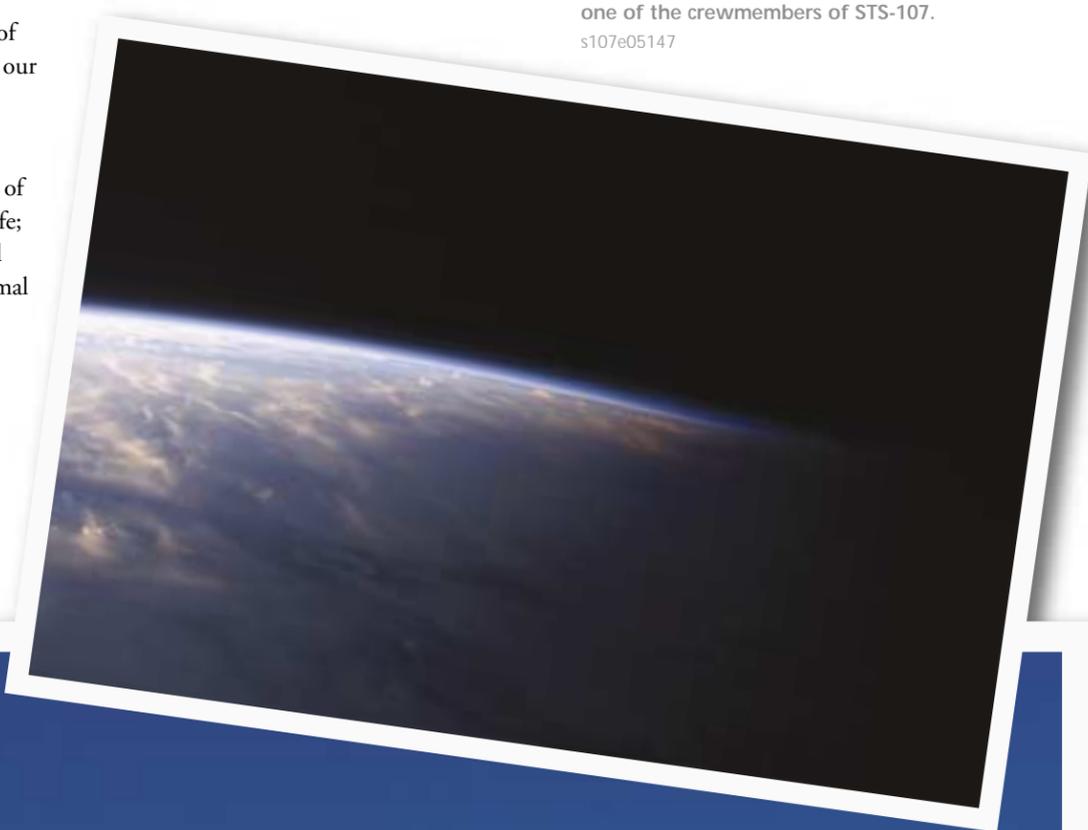
John Neal, Crew and Thermal Systems Division

■ I was impressed by Commander Rick Husband's devotion to his children. I met him and his family through their church; I never had the privilege of working with him at JSC. He participated in daily Bible studies and devotionals with each child, so he videotaped two sets of devotionals in advance, each one 15 days long – the number of days he expected to be away from home. Now his children have a keepsake video of their dad that shows how much he was devoted to them, and to his God. His dedication is something rare in today's world.

Richard Coles, Lockheed Martin

This unique view of earth was taken by one of the crewmembers of STS-107.

s107e05147



Columbia launches from Kennedy Space Center on January 16, 2003.
sts107-s-005

A higher place: Mountain peak dedicated in honor of *Columbia* and her crew

By Kendra Ceule

Colorado is full of magnificent mountain peaks. But for the families and friends of the STS-107 crew, none are more beautiful and majestic than Columbia Point.

Columbia Point, a 13,980-foot mountain peak in Colorado's Sangre de Cristo Mountains, was named for the Space Shuttle *Columbia* and her crew that were lost on Feb. 1, 2003. The U.S. Department of the Interior made the dedication on June 10. NASA Administrator Sean O'Keefe, along with STS-107 family members, joined Interior Secretary Gale A. Norton for the announcement.

"Those who explore space in the days ahead may gaze back at Earth and know that Columbia Point is there to commend a noble mission," Norton said. "The point looks up to the heavens and it allows us, once again, to thank our heroes who soared far beyond the mountain, traveled past the sky and live on in our memories forever."

In August 2003, an expedition of STS-107 family members, astronauts and support personnel journeyed to the Sangre de Cristo mountains. Their goal was to climb Columbia Point, hold a memorial service and mount a bronze plaque. While the weather didn't fully cooperate, the group of more than 40 people was able to climb higher than 13,000 feet and hold a memorial service in view of the summit. Astronaut Scott Parazynski helped lead the expedition.

"We had a beautiful dedication ceremony and built seven rock cairns in memory of the crew," he said. "We then witnessed a spectacular four-ship F-16 missing-man fly-by."

During the ceremony, a team of three experienced climbers went to the true summit and mounted the bronze plaque. "The families were enthusiastic campers," Parazynski said, adding that many of them talked about "returning at a later date to revisit their mountain."



Columbia Point is located on the east side of Kit Carson Mountain. On the northwest shoulder of the same mountain is Challenger Point, a peak previously named in memory of the Space Shuttle *Challenger*.

At the June dedication, O'Keefe commended the heroes of both missions. "When people look upon these mountains," O'Keefe said, "they see the challenge of the American frontier – bold in vision, courageous in spirit and endless in horizon. The crew of *Columbia*, like the *Challenger* before her, had these qualities at their core. These mountains are a natural testament to their memory, their spirit of exploration and will endure forever."

In August 2003, an expedition of STS-107 family members, astronauts and support personnel journeyed to the Sangre de Cristo mountains to hold a memorial service in honor of *Columbia* and her crew.

jsc2003e65943
Photo courtesy of Scott Parazynski

NASA thanks East Texas communities for *Columbia* support

By Tiffany Travis

In appreciation for their support of *Columbia* recovery efforts, dozens of Johnson Space Center employees provided the communities of East Texas and Western Louisiana with educational and community outreach events during September and October.

The Texas cities of Corsicana, Palestine, Nacogdoches, Lufkin, Huntington, Diboll, Hudson and Hemphill, as well as Shreveport, La., participated in a variety of NASA outreach events. The activities included astronaut appearances, educational videoconference opportunities, NASA history presentations, professional teacher development sessions, presentations of Discovery Channel and Science Channel space documentaries and many different exhibits including the International Space Station Trailers exhibit, "Space Station Imagination."

The JSC Distance Learning Network (DLN) provided students and teachers an opportunity to participate in live interactive videoconferences. Using teleconference tools, students interacted with NASA experts, toured JSC facilities and observed cutting-edge technology. The DLN team presented programs to more than 1,100 students from eight different schools in the East Texas area.

Members from JSC's Aerospace Education Services Program (AESP) conducted professional teacher development workshops for approximately 350 K-12 educators in the region. Topics included rockets, space food, microgravity, Earth science, spacesuits and astronomy. In addition to the workshops, AESP conducted assembly programs for students visiting the East Texas area, educating and entertaining them

on NASA history, current endeavors and future plans for our country's space program. Students were also involved with in-depth discussions on concepts like microgravity, living and working in space and robotic technology.

"Space Station Imagination" drew large crowds during its six-city tour throughout East Texas and Western Louisiana: 23,644 visitors toured the exhibit, learning how astronauts aboard the Space Station live and work in space. Astronauts Ellen Baker, Dan Burbank, Mike Barratt, Piers Sellers and Joe Tanner participated in the exhibit's tour by signing autographs, speaking with children, giving presentations and serving as media spokespersons. In addition to astronaut participation, numerous JSC employees provided tours through the exhibit, answering questions on various topics and serving as ambassadors for NASA.

These community outreach and educational activities were publicized through many of the region's major media outlets. Ten television stations, 140 radio stations, six newspapers and numerous Web sites covered the events, conveying the message to millions of people that NASA considers the people of East Texas and western Louisiana a part of the NASA family.



The International Space Station Trailers Exhibit, "Space Station Imagination," was visited by more than 23,000 visitors during its East Texas and Western Louisiana tour.

jsc2004e00078 (top)
jsc2004e00077 Photo by David DeHoyos

Columbia Elementary School is dedicated to future learners and leaders

By Cheerie R. Patneude
White Sands Test Facility

Students at the new Columbia Elementary School in Las Cruces, N.M., had a blast on Sept. 18 when they made colorful paper rockets and launched them from the playground.

"I thought it would fly only a short distance," fourth-grader Miles Romney said, "but it went farther than I thought it would go!"

The rockets were launched just one day before the school's official dedication to the memory of the Space Shuttle *Columbia* and her crew. For the dedication, the school's large multipurpose room was filled with the entire student body, parents, guests and staff who enjoyed the Vista Middle School Handbell Choir's performance of "Celebrate *Columbia*." The audience also stood at attention for the Mayfield High School Junior ROTC Color Guard and the Mayfield Madrigal Singers.

Keynote speaker Astronaut James Reilly was greeted by flag-waving students as he was introduced. Reilly spoke to the audience of his memories and close friendship with the STS-107 crew. In one anecdote, Reilly told of how his friend and colleague Astronaut Michael Anderson was often told that he couldn't become a pilot. But then he spoke of Anderson's faith in himself, his hard work pursuing his goal and refusal to listen to his critics.

"Lots of people will tell you that you can't do something. But the only person that can tell you that you can't do something is you," Reilly said. "My friend Mike refused to listen to those others and went on to become an outstanding pilot."

Reilly felt that naming the school in memory of his friends "will leave a legacy that will live on in the students that will come behind you."

Reilly then presented the school with a framed collage of photos of the STS-107 astronauts.

Jennifer Terrazas, Principal of Columbia Middle School, introduced dignitaries from the Las Cruces School Board, Las Cruces Public School employees, Columbia Elementary staff members, family members and NASA White Sands Test Facility (WSTF) personnel.

Stephen Nunez, NASA WSTF Manager, presented the school with a framed, signed photo of the STS-107 crew with a commemorative mission patch and coin.

A grove of seven red oaks has been planted in the front of the school, one for each astronaut. The grove is a memorial to the STS-107 crew to be forever remembered by the students in the spirit of learning and exploring.

Several larger-than-life photographs of NASA explorers hang in the halls of the new school. Each wing of classrooms has a different theme: Apollo, Space Shuttle, International Space Station and Future Exploration. The students of Columbia are considered "Explorers."

Pleddie Baker, the WSTF Education Outreach leader who assisted in coordinating the event, said, "We are honoring the crew of *Columbia*, which was tragically lost last February. But we are also honoring a new beginning: the opening of a new elementary school and the education of our children it represents. It is NASA's hope that, by using space to inspire children to get a good education, they will also go farther and fly higher throughout their life – much like their rockets."

He added: "It is volunteers like those we have from the White Sands Test Facility, and the excellent teaching staff you have at Columbia, who believe that this not only can happen, but definitely will happen by creating these opportunities for the students."

Sonja Vestal, a Columbia Elementary teacher and the school's Science Advisor Coordinator, said, "It is an honor to be a part of Columbia Elementary School. We're truly grateful that NASA is willing to show us the pathway to a better science and technology education for our students."

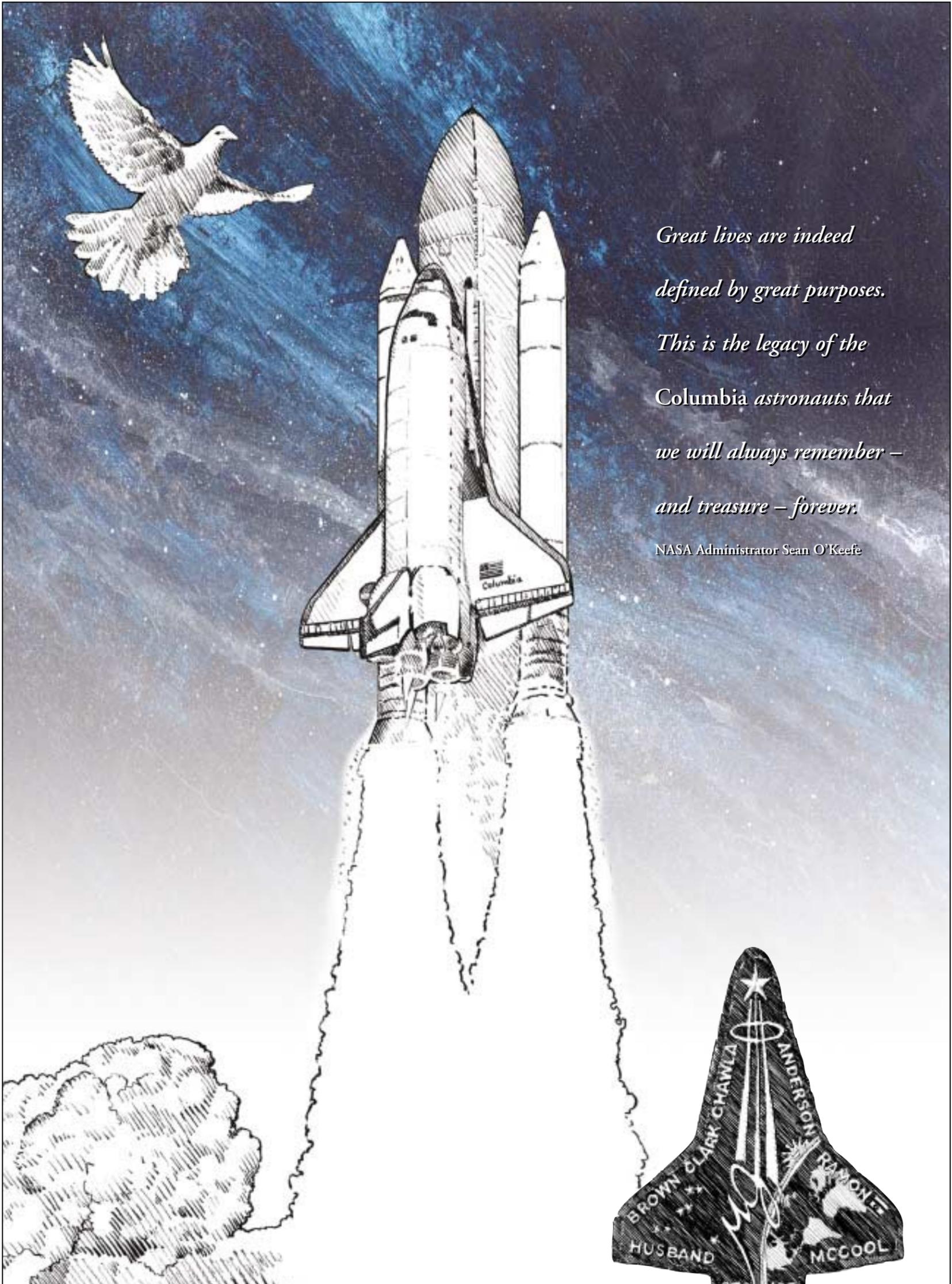


Columbia Elementary School in Las Cruces, N.M., was officially dedicated to the Shuttle and crew on Sept. 19.
wstf0903e4009
Photo by Randy Page



Astronaut James Reilly meets some of the Columbia Elementary students.
wstf0903e4049 (above)
wstf0903e4013 Photos by Randy Page





*Great lives are indeed
defined by great purposes.
This is the legacy of the
Columbia astronauts that
we will always remember –
and treasure – forever.*

NASA Administrator Sean O'Keefe

Illustration by David M. Russell of the IMPASS contract.

SPACE CENTER

Roundup

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